



Beachland Park

847 South Quaker Lane, West Hartford, CT

Beachland Park

Beachland Park supports a historic building, soccer field, baseball field, sledding hill, outdoor pool, splash pad, pool house, pond, silt pond, paved walking paths, basketball courts and three parking areas. The park was originally a homestead purchased by Charles M. Beach of Hartford in 1852, and has functioned as a park since at least the 1920's. The Beachland Park Clubhouse was once a combination home and dairy, called the Elmwood Creamery. In the early 1930's the building was repurposed from a creamery into a park clubhouse.

The large pond next to the building was described in Hartford Courant articles dating from the early 1930s. Plans from the 1980s include an "existing siltation pond" and "existing rip-rap drainage ditch". Three storm drainage pipes (1-6" and 2-12") feed into the silt pond and one 12" storm drainage pipe discharges into Beachland Pond. One 48" storm drainage pipe discharges into the drainage ditch, which is open for approximately 150 feet before the flow is piped again under the driveway and ultimately discharges into nearby Trout Brook.

Beachland Silt Pond

The silt pond and the drainage ditch have not been maintained since they were constructed in the early 1980's. The silt pond has approximately 5 feet of sediment within it and the banks of the drainage ditch have eroded and accumulated sediment. Significant, continuously wet, mucky ground between the baseball field and the hill below The Quaker Green property plagues users of the baseball fields. In recent years, we noticed minor flooding or unusable areas on the first base side of the baseball field as well as collapsing of the chain link fence. A preliminary investigation by Public Works and Engineering discovered that dirt and organic materials covered an existing catch basin in this area. The pipe from this catch basin discharges into the silt pond.

What Feeds into the Silt Pond and Drainage Ditch?

Various pipes feed into the silt pond and nearby drainage ditch. A large storm water manhole is located upstream of the silt pond and drainage ditch. All the storm water flow from the Quaker Green Complex (Park Place Circle and Schoolhouse Drive) and the Mayflower and New Britain Avenue area enters this manhole. Any sand and/or salt used in these neighboring areas are traveling through the pipes to the silt pond and drainage ditch. The manhole contains a weir wall so that the "first flush" is directed to the silt pond via a 12" pipe and the remainder of the flow goes through the 48" pipe and discharges into the drainage ditch. The drainage ditch needs cleaning from the upstream invert to the downstream invert. The silt pond needs cleaning out because it is full of accumulated sediments.

There is an outflow pipe from the catch basin on the first base line of the baseball field. The pipe travels north (from first base to right-center field) under the field and discharges into the silt pond. The outflow pipe is not draining and appears to be restricting the flow of water. The storm water runoff collects and/or ponds on south side of baseball field. The baseball field's fence is falling down due to the wetness of the soil. We suspect we will find sediment in the inflow pipe.

The third pipe that discharges into the silt pond comes from an underdrain system located in the in the baseball field. This system is shown on the plans from the early 1980's and the assumption is that it was

installed. The discharge for this 6" pipe in the silt pond was not located or found visually. It is possible that it is buried under the sediment.

Through the years of no maintenance, the silt pond has mostly been filled with sediment. This is evident from the vegetation and trees growing in the silt pond. It also appears that because the silt pond is no longer functioning as a silt pond, sediment is being washed into Beachland Pond. This is evident by the numerous cattails and vegetation that are growing near the discharge pipe outlet from the silt pond.

Sediment travels through the drainage ditch and into the pipe to the north under the driveway, then travels east between the road and the soccer field and is discharged into the Trout Brook. A catch basin on the north side of the driveway shows a build-up of silt as well. At times, the flow in the drainage ditch will over top the driveway and deposit sediment around the catch basin. The existing catch basin in the field has approximately 6" of build-up sediment mounded around the grate of the catch basin.

Objective and Methods

The focus of the proposed project is to improve the function of how storm water flows through the silt pond and drainage ditch, and to prevent sedimentation transport. Both the silt pond and drainage ditch contain large amounts of sediment. The silt pond no longer cleans the water entering it and sediment is accumulating in Beachland Pond near the discharge. The drainage ditch is carrying eroded sediment downstream to Trout Brook or over the driveway and mounding around the existing catch basin.

For the silt pond, the primary goal is to reestablish the intended purpose for which the silt pond was designed. It should function as a settlement area to prevent silt and debris from entering Beachland Pond. It was designed so that sediment enters the silt pond, falls to the bottom to allow water to flow over it. In its current state, the silt level and vegetation is above the inlet and outlet pipe. It is well past its capacity for proper functioning. The plans propose to re-establish the silt pond bottom at 5 feet below the existing pipe inverts. The slopes proposed are 1.5:1 and would be stabilized with riprap.

The proposed improvements to the silt pond consists of the removal of nine trees: eight small (5-4" and 3-5" diameter) trees and one 6" tree, which have grown up in the silt pond and around the silt pond. The nine trees will be replaced with five native osier dogwoods and four native common witch hazel trees along south side of Beachland Pond and other areas of Beachland Park.

Two areas along the silt pond consisting of approximately 670 sf will be planted with native emergent vegetation. The vegetation at the ponds perimeter will provide a water quality benefit through bio-assimilation.

For the drainage ditch, the intent is to restore the drainage ditch to the original plans, which consist of a 6-foot wide bottom and 2:1 to 1.5:1 side slopes. The meander in the existing drainage ditch shall remain. The bottom of the drainage ditch at the end of the wing walls is scoured out. The scour is due to the high velocities discharging from the pipe and the restricted area for the flow to go. The scoured out area is creeping around to the backside of the wing walls. A preformed plunge pool is proposed to help dissipate the velocities from the 48" pipe and to help prevent further erosion behind the wing walls. Material is proposed along the backside of the wing walls is for stabilization. The banks of the drainage ditch have fell in from erosion and/or filled in from accumulated sediment. A positive slope is proposed from the outlet of the 48" pipe to the inlet of the 24" pipe. The side slopes will be stabilized with riprap. An existing paved leak off from the parking lot to the drainage ditch has broken up through the years. The paved leak off will be fixed. The catch basin in the field on the north side of the driveway will be

reggraded to function properly. The sediment build up around the catch basin will be cut back. No trees are proposed to be removed from this area.

Best Management Practices for performing the proposed work will be applied. All sediment and erosion controls will be in place before the commencement of the work. Sedimentation and erosion control measures would be supplemented as needed during construction. The work area will be minimized for each location. The best time to perform the work is during the dry season or when the ground is nearly frozen. This will reduce the making of ruts as well as to help prevent the disturbance of excess soils and roots of the vegetation. The equipment will be inspected daily for leaks. The Contractor will notify the Engineering Division immediately when problems arise. After construction, sedimentation and erosion controls will remain in place until the disturbed areas have been stabilized with vegetation.

The project will be completed by the Towns Department of Public Works (DPW). DPW would mechanically remove sediment and organic material with an excavator in the silt pond and the drainage ditch. The material will be hauled to the area as shown on the plans. The stockpiled material will be protected with sediment and erosion control measures. The material will be allowed to dry and then will be hauled offsite to a DPW facility. Approximately 1290 cy of material is proposed for excavation. Before excavation occurs, any water present will be handled. Water in the silt pond at the commencement of work would be pumped through a dewatering filter sock to remove sediment and into the drainage ditch. For water flowing in the 48" storm pipe, the flow will be ponded in the pipe using sandbags and then the flow will be pumped into the 24" pipe.

Riprap is proposed to be used to stabilize the banks of the silt pond and drainage ditch. Riprap is man-placed rock used to armor shorelines, streambeds, bridge abutments, pilings and other shoreline structures against scour and water or ice erosion. Riprap, ranging in size from 6"-9" is primarily used for erosion control along slopes or around culvert ends in site construction. All riprap applications require an underlayment of geotextile fabric to prevent water from washing out the dirt underneath the rock. Areas of native plants are proposed around the silt pond where the grade is flatter. These areas would provide a buffer to the silt pond. Proposing flatter side slopes on the silt pond and/or drainage ditch would have greater impacts on the parking area, large established trees and the area around these features. Once work is completed, all sedimentation and erosion will remain in place until the disturbed areas are stabilized.

Ongoing Maintenance

With the completion of the proposed project, the silt pond and drainage ditch will function as intended. In order to keep the system functioning, the silt pond and drainage ditch should be inspected annually to determine how fast sediments are accumulating. Sediment and plant build up would be removed and repairs, if necessary, would be performed to maintain the function of the silt pond and drainage ditch.